

TECHNICAL DATA
DATA SHEET 4095, REV. -

POSITIVE FIXED 3.3 VOLT 3.0 AMP
VOLTAGE REGULATOR

Features:

- Isolated Hermetic Package (TO-257)
- Three-Terminal Fixed
- Operates Down to 1V Dropout
- Guaranteed Dropout Voltage at Multiple Current Levels
- On-Chip Thermal Limiting
- Electrically Equivalent to LT1085-3.3

Applications:

- High Efficiency Linear Regulators
- Post Regulator for Switching Supplies
- Constant Current Regulators

Description:

This positive +3.3V regulator is designed to provide 3A with high efficiency using simple 3-terminal configurations. All internal circuitry is designed to operate down to 1V input-to-output differential and the dropout voltage is fully specified as a function of load current. Dropout is guaranteed at a maximum of 1.5V at maximum output current, decreasing at lower load currents. Current limit is trimmed to ensure specified output current and controlled short-circuit current. On-chip thermal limiting provides protection against any combination of overload that would create excessive junction temperatures.

MAXIMUM RATINGS

All ratings are at $T_A = 25^\circ\text{C}$ unless otherwise specified.

Parameter	Conditions	Typical	Limit	Units
Input Voltage Max	Transient	-	30	Vdc
Storage Temperature Range	-	-	-65 to +150	$^\circ\text{C}$
Lead Temperature	Soldering, 10 seconds	-	+300	$^\circ\text{C}$
Power Dissipation (P_D)		-	Internally Limited	W
Maximum Thermal Resistance Junction to Case (θ_{JC})	-	-	3.5	$^\circ\text{C/W}$
Junction Temperature (T_J)	-	-	+150	$^\circ\text{C}$
Ambient Operating Temperature Range (T_A)	Recommended Conditions	-	-55 to +125	$^\circ\text{C}$
Output Current (I_{OUT})	Recommended Conditions	-	2.0	A
Input Voltage	Recommended Conditions	-	20	V

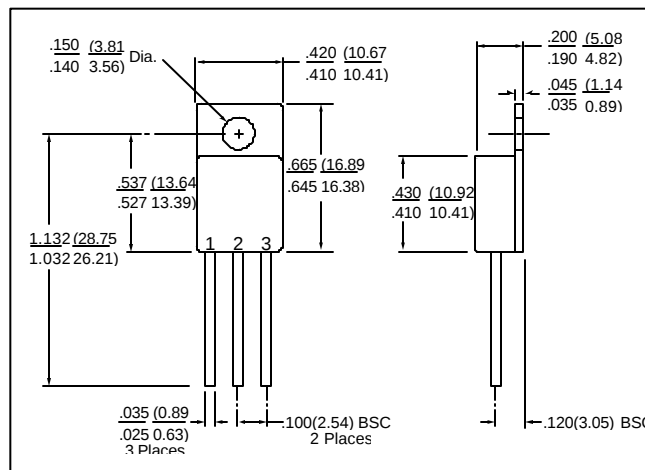
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ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typ	Min / Max	Units
Output voltage (V_O)	$I_{OUT} = 10.0\text{mA}$, $5\text{V} \leq V_{IN} \leq 15\text{V}$ $T_A = +25^\circ\text{C}$	3.30	3.27 / 3.33	V
		3.30	3.235 / 3.365	
Line Regulation (V_{RLINE}) $\Delta V_{OUT} / \Delta V_{IN}$	$5\text{V} \leq V_{IN} \leq 15\text{V}$ $I_{OUT} = 10\text{mA}$	1.0	6.0 Max	mV
Load Regulation (V_{RLOAD}) $\Delta V_{OUT} / \Delta I_{OUT}$	$V_{IN} = 5.0\text{V}$ $10\text{mA} \leq I_{OUT} \leq 3.0\text{A}$	7	20 Max	mV
Quiescent Current I_{MIN}	$V_{IN} = 18\text{V}$	-	10 Max	mA
Current Limit I_{CL}	$V_{IN} = 8.0\text{V}$ $T_J = 25^\circ\text{C}$	4.0	3.2 Min	A
Temperature Stability $\Delta V_{OUT} / \Delta t$	$-55^\circ\text{C} \leq T_J \leq +125^\circ\text{C}$	1.0	2.0 Max	%
Ripple Rejection	$f = 120\text{Hz}$ $C_{OUT} = 25\mu\text{F}$ (tantalum) $I_{OUT} = 2.0\text{A}$ $V_{IN} = 6.3\text{V}$	60	-	dB
Dropout Voltage V_{DO}	$I_{OUT} = 2.0\text{A}$, $\Delta V_O = 33\text{mV}$	1.3	1.5 Max	V
Thermal Regulation	30 ms pulse, $T_A = 25^\circ\text{C}$	-	0.02	%/W
Long Term Stability	$T_A = +125^\circ\text{C}$, $t = 1,000\text{hrs}$	-	1.0	%

Parameters in boldface denote the specification applies over the full operating temperature range.

TO-257 MECHANICAL DIMENSIONS: in inches / mm



PINOUT TABLE

TYPE	PIN 1	PIN 2	PIN 3
TO – 257, 3.0A Regulator	Common	V_{OUT}	V_{IN}

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